



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22303-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,153	02/11/2004	Hsiu-Chuan Lien	MSCP0024USA	2152
27765 7590 01/25/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER WEI, ZHENG	
			ART UNIT	PAPER NUMBER
			2192	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/25/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/708,153

Applicant(s)

LIEN ET AL.

Examiner

Zheng Wei

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8 and 10-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/11/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. This office action is in response to the amendment filed on 10/31/2006.
2. Claims 5 and 9 have been canceled.
3. Claims 1, 2 and 6-8 have been amended.
4. Claims 10-16 have been added.
5. Claims 1-4, 6-8 and 10-16 remain pending and have been examined.
6. The objection of claim 9 under 37 CFR 1.75(c) is withdrawn in view of the Applicant's cancellation of the claim 9.

Claim Objections

7. Claims 10-16 are objected to because of the following informalities:

Claims 10-16: "an first parameter" (at page 3, line 14) is a typo. It should change to --a first parameter--

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2192

9. Claims 1-4, 6-8 and 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-4, 6-8 and 10-16:

The term "out of order" in claims 1-4, 6-8 and 10-16 is a relative term which renders the claim indefinite. The term "out of order" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of compact prosecution, the Examiner treats "out of order" as a general error status.

Claims 13-16:

The terms "critical event error handler" and "generic event error handler" in claims 13-16 are relative terms which render the claims indefinite. The term "critical event error handler" and "generic event error handler" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of compact prosecution, the Examiner treats the "critical event error handler" as the error that can cause system booting failure.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Schieve (Schieve et al. US 5,463,766).

Claim 1:

Schieve discloses a method for testing and debugging computer programs, the method comprising:

- Setting a plurality of breakpoints corresponding to a plurality of events in an implementation under test, each event being a test executed to a peripheral device (see for example Fig.4, step 410, "Detect Peripherals" and related text) and taking a general processing path when the peripheral device is working well (see for example, step 480, "Did test pass? Yes" and related text) or an error processing path when the peripheral device is out of order (see for example, step 490 "Display Error/Status and Information" and related text);
- Executing the implementation under test for outputting a diagnosis code of a breakpoint (see for example, step 470, "Execute Test" and related text);
- Resetting a parameter of the event corresponding to the diagnosis code (see for example, Fig.4, step 480, "Did Test Pass?" and "Yes/No" paths and related text);
- Executing the event according to the reset parameter for making the event undergo the error processing path (see for example, step 490 "Display Error/Status and Information" and related text);

Claim 2:

Schieve discloses the method for program debugging as in claim 1 above, Schieve also discloses that the method further comprising: after completing the steps of claim 1, repeating last 3 steps for making the implementation under test make all events undergo the error processing path. (see for example, loop from steps 440 to 490 and related text)

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 7, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schieve (Schieve et al. US 5,463,766)

Claim 7:

Schieve discloses the method for program debugging as in claim 1 above, which has an error handler to display error message (see for example, Fig.4, step 490, "Display Error /Status and Information"). Schieve also discloses a step of system reset (see for example, Fig.3, step 380, "Reset Button Pressed?"), but does not explicitly disclose the error handler is a system reset. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method of system reset to handle found error. One would have

been motivated to do so to reset the system to prevent whole system crash when some severe bugs occur (see for example, Fig.3 step 380, "Reset Button Pressed?", option "Yes").

Claim 10:

Schieve disclose a method for program debugging, the method comprising:

- comprising a user assigned diagnosis code (See for example, Fig.4, step 440, "Selected Test List" and related text), an first parameter, and a second parameter corresponding to an event in an implementation under test (see for example, Fig.4, step 480, "Did Test Pass?" and related text), the event being a test executed to a peripheral device and taking a general processing path when the peripheral device is working well (see for example, Fig.4, step 480, ,option "YES") or an error processing path when the peripheral device is out of order (see for example, Fig.4, step 480, option "No" and related text);
- setting a breakpoint corresponding to the event in the implementation under test (see for example, Fig.4, step 480, "Did Test Pass?");
- executing the implementation under test using a parameter equal to the corresponding first parameter for outputting a diagnosis code of the breakpoint (see for example, Fig.4, step 470, "Execute Test" and step 480, "Did Test Pass?");
- resetting the parameter to be equal to the second parameter when the diagnosis code answers to the user assigned diagnosis code (see for

example, Fig.4, step 440, "Sequentially Select Test From Selected Test List"); and

- executing the event according to the second parameter (see for example, Fig.4, loop from step 440 to step 490).

But does not explicitly disclose generating a script file to perform the testing.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use script to test or verify whether the peripheral device is working or not. One would have been motivated to do so to use testing program e.g. testing script in order to verify peripheral device working properly.

Claims 11-12:

Schieve further discloses the method of claim 10 comprising executing the event according to the general processing path when the output is "Yes"/"No" (see for example, Fig.4, step 480, option "Yes", "No"). But does not explicitly disclose the first parameter is the same as or different from the second parameter. However, it would have been obvious to one having ordinary skill in the art at the time the invention to understand that there is comparison process running at back-end at step 480 to decide "Did Test Pass?", "Yes" or "No". One would have been motivated to do so to use "the first parameter is the same as or different from the second parameter" as the condition to generate "Yes" or "No" option.

Art Unit: 2192

14. Claims 3-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schieve (Schieve et al. US 5,463,766) in view of Phillips (Phillips et al., US 5,321,828)

Claim 3-4:

Schieve discloses the method for program debugging as in claim 1 above, but does not explicitly disclose the breakpoints are set ahead of program codes of the corresponding events or after program codes of the corresponding events. However, Phillips in the same analogous art of an in-circuit emulator for hardware/software development and debugging microprocessors discloses that a user to set any number of breakpoints all at the same place in the program, or at different places (see for example, col.26-col.27, section "Setting Breakpoints" and related descriptions). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set breakpoints anywhere in the code in order to adequately support execution control functionality and provide the rich set of functionality needed for the debugger. One would have been motivated to set breakpoints before or after the program codes of the corresponding events to narrow down the places where the bugs might occur.

Claim 8:

Schieve discloses the method for program debugging as in claim 1 above which has an error handler to display error message, but does not explicitly disclose the error handler is a system execution interrupt. However, Phillips in the same analogous art of an in-circuit emulator for hardware/software development and debugging microprocessors discloses that execution interrupt (see for example, col.72, lines 60-67, "single interrupt request line"). Therefore, it would have been

Art Unit: 2192

obvious to one having ordinary skill in the art at the time the invention was made to use the method of system execution interrupt to allow the control processor to monitor the Clock Detect signals which is suggested by Phillips. One would have been motivated to do so to stop executing or suspend current process to trace the problem.

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schieve (Schieve et al. US 5,838,975) in view of Robinson (Jeffrey I. Robinson, US 5,768,591)

Claim 6:

Schieve discloses the method for program debugging as in claim 1 above, but does not explicitly disclose that the error handler is an audible tone. However, Robinson discloses a similar method for program debugging as in claim 1 above which the error handler is an audible tone. (Fig.4, items 172, 164, col.12, lines 64-67, "A sound generator 164 is provided and controlled by the message parser and error handler 172"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use "sound generator" to replace Schieve's method of error handler. One would have been motivated to do so to generate alarm to alert the user when the bug occurs.

16. Claims 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schieve (Schieve et al. US 5,463,766) in view of Treu (Albert Treu, US 5,245,615)

Claim 13:

Schieve discloses the method of claim 12, but does not disclose wherein the error processing path comprising a generic event error handler and a critical

event error handler, each error handler being respectively executed according to different second parameters. However, Treu in the same analogous art of diagnostic system and interface for a personal computer discloses POST error handling and analysis including critical error or non-critical error (see for example, Fig.6, step 242, "Critical error?" and related text). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Treu's error handling method to handling error in Schieve invention. One would have been motivated to do so to avoid user see a blank screen as suggested (see for example, col.8, lines 20-21)

Claim 14:

Schieve and Treu disclose the method of claim 13, Schieve further discloses display error message (see for example, Fig.4, step 490, "Display Error/Status and information" and related text)

Claim 16:

Schieve and Treu disclose the method of claim 13, Schieve further disclose executing the implementation under test until the end of the program after undergoing the error processing path (see for example, Fig.4, loop from 490 to 44p and related text).

17. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schieve (Schieve et al. US 5,838,975) in view of Treu (Albert Treu, US 5,245,615) and further in view of Robinson (Jeffrey I. Robinson, US 5,768,591)

Claim 15:

Schieve and Treu disclose the method for program debugging as in claim 13 above, but do not explicitly disclose that the critical error handler is an audible tone. However, Robinson discloses a similar method for program debugging as in claim 1 above which the error handler is an audible tone. (Fig.4, items 172, 164, col.12, lines 64-67, "A sound generator 164 is provided and controlled by the message parser and error handler 172"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use "sound generator" to replace Schieve and Treu's method of error handler. One would have been motivated to do so to generate alarm to alert the user when the bug occurs as suggested by Treu (see for example, Fig.6, step 248, "Inform user of Error If Possible" and related text)

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZW



TUAN DAM
SUPERVISORY PATENT EXAMINER